

CLAIMS

1. An electrical contact member (24) suitable for electrically interconnecting two conductive members (12, 22; 112, 122) in series, which members can move relative to each other, and are part of medium-voltage or high-voltage electrical apparatus, in particular interrupter apparatus or a set of busbars, at least a portion of said contact member (24) comprising a strength-imparting base layer (26) made of an electrically conductive material, and a coating layer (28) formed from metallic silver and designed to come into contact with the two electrically conductive members (12, 22; 112, 122), said coating layer (28) being present over at least a portion of the outer surface of the base layer (26), said electrical contact member being characterized in that said coating layer has a micro-structure formed by pure silver crystals (I), with the presence of nodules (III) made of silver and of an additional metallic material formed by at least one additional metal that is different from silver.

2. An electrical contact member according to claim 1, characterized in that the or each metal forming the additional material does not belong to the platinum column of the periodic table of elements.

3. An electrical contact member according to claim 2, characterized in that the additional material is

formed by at least one element chosen from copper, phosphorus and indium.

4. An electrical contact member according to any preceding claim, characterized in that the additional material is present in the coating layer in a proportion of less than 1% by weight, preferably less than 0.5% by weight, and even more preferably less than 0.1% by weight.

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5. An electrical contact member according to any preceding claim, characterized in that the additional material is present in the coating layer in a proportion of more than 0.001% by weight, and preferably more than 0.01% by weight.

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6. An electrical contact member according to any preceding claim, characterized in that the thickness of the coating layer lies in the range 1 μm to 1000 μm , and preferably in the range 10 μm to 500 μm .

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7. An electrical contact member according to any preceding claim, characterized in that the base layer is made of copper, alloyed with zirconium and/or with chromium.

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8. An electrical contact member according to claim 7, characterized in that the chromium and/or the zirconium are present in a proportion or in proportions of less than 1% by weight of the base layer, and preferably less than 0.5% by weight.

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9. An electrical contact member according to any preceding claim, characterized in that, between the base layer (26) and the coating layer (28), an interface layer (27) is provided that serves to improve the adhesion between said base layer and said coating layer.

10. An electrical contact member according to claim 9, characterized in that the interface layer (27) is made of optionally alloyed nickel, or of optionally alloyed palladium.

11. An electrical contact member according to any preceding claim, characterized in that the electrical contact member (24) is looped back on itself in the manner of a ring.

12. An electrical contact member according to any preceding claim, characterized in that it is formed in one piece.

13. An electrical contact member according claim 12, characterized in that it is formed of a single rolled-up wire (25) forming a succession of turns.

14. An electrical contact member according to any one of claims 1 to 11, characterized in that it is formed of a plurality of contact elements.

15. An electrical contact member according to claim 14, characterized in that the various contact elements are secured together.

5 16. An electrical contact member according to claim 14, characterized in that the various contact elements are independent.

10 17. A method of manufacturing an electrical contact member (24) according to any preceding claim, comprising the following steps:
- at least the base layer (26) is shaped;
- at least a portion of the outer surface of the base layer (26) is covered with a coating layer (28).

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18. A method according to claim 17, characterized in that only the base layer (26) is shaped, and then said base layer as shaped is covered with the coating layer (28).

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19. A method according to claim 17, characterized in that firstly the base layer is covered with the coating layer, then in that both the base layer and the coating layer are shaped together.

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20. A method according to claim 17, characterized in that the base layer is shaped while it is being covered with the coating layer.

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21. A method according to any one of claims 17 to 20, characterized in that firstly the coating layer is

formed in the form of an alloy of silver and of the additional material, and then the base layer is covered with said coating layer as formed.

5 22. A method according to any one of claims 17 to 20, characterized in that the base layer is covered with substantially pure silver, then in that the resulting layer of substantially pure silver is covered with the additional material.

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 23. Medium-voltage or high-voltage electrical apparatus comprising at least two electrically conductive members (12, 22; 112, 122) that can move relative to each other in service, and at least one
15 electrical contact (24) suitable for electrically interconnecting two adjacent conductive members, said apparatus being characterized in that the or each electrical contact member (24) is a contact member according to any one of claims 1 to 16.

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 24. Apparatus according to claim 23, characterized in that it is an interrupter electrical apparatus, in particular a circuit-breaker or a disconnecter.

25 25. Apparatus according to claim 23, characterized in that it is a set of busbars.

 26. Apparatus according to any one of claims 23 to 25, characterized in that the two electrically
30 conductive members (12, 22) are disposed concentrically and in that the or each electrical contact member (24)

is held stationary, in service, by being wedged between the facing walls of the two conductive members.

27. Apparatus according to claim 26, characterized
5 in that the electrical contact member (24) is received in a groove (22₂) provided in one or the other of the two electrically conductive members (12, 22).

28. Apparatus according to any one of claims 23 to
10 25, characterized in that the two electrically conductive members (112, 122) are disposed one behind the other, a hollow coupling piece (120) fitting over the facing ends of said two conductive members, while the or each electrical contact (24) is held stationary,
15 in service, by wedging between the facing walls of said coupling piece (120) and of at least one of said two conductive members (112; 122).